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SUMMARY OF

"LONG TERM PROJECTIONS OF AGRICULTURAL SUPPLY AND DEMAND, AUSTRALIA, 1965 and 1980"

U.S. DEPT. OF AGRICULTURE
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U.S. DEPARTMENT OF AGRICULTURE Economic Research Service

Australia: Summary of production and exports for selected items, 1958/59-1961/62 average; 1965; and projections for 1970, 1975, and 1980 1/

Item	1958/59-1961/62 av.		1965 2/		1970		1975		1980	
	Prod.	Export	Prod.	Export	Prod.	Export	Prod.	Export	Prod.	Export
	1,000 metric tons									
Meat 3/:										
Beef and veal	782	266	964	412	950	353	1,099	456	1,196	504
Mutton	360	61	375	122	401	112	427	125	441	127
Lamb	206	28	213	20	223	0	232	-27	251	-51
Dairy products:										
Milk	6,494	-	7,064	-	6,891	-	6,989	-	7,064	-
Preserved milk products 4/	372	160	449	202	495	201	547	215	551	182
Butter	196	76	207	92	188	77	177	69	167	54
Cheese	48	19	60	27	67	28	78	30	84	27
Eggs	119	11	130	9	152	18	172	22	194	26
Cereals:										
Wheat	6,085	4,376	8,529	6,042	11,295	8,682	13,635	10,805	16,085	13,009
Rice (milled)	90	55	113	64	160	70	196	81	224	94
Barley	1,173	683	1,012	297	1,295	540	1,429	567	1,610	624
Oats	1,201	307	1,161	303	1,270	256	1,397	294	1,549	341
Fruits:										
Canned 5/	144	84	207	122	271	149	320	176	343	181
Dried, tree	7	3	10	5	10	4	11	5	13	5
Dried, vine 6/	85	63	109	77	101	76	112	83	137	89
Tobacco:										
Tobacco, unmanufactured	6	-18	12	-14	15	-13	17	-14	20	-13
Natural fibers:										
Wool	748	723	774	746	870	839	917	885	949	916
Cotton 7/	2	-24	16	-25	32	-10	49	-8	69	-9
Tallow	176	73	247	83	248	102	276	115	292	149
Hides and skins 8/	n.a.	106	n.a.	141	n.a.	126	n.a.	147	n.a.	163

1/ Negative statistics signify imports. N.A. means not available. 2/ Average of 1964/65 and preliminary data for 1965/66. 3/ Carcass weight equivalents. 4/ Whole milk equivalent. 5/ Peaches, pears, apricots, pineapple, mixed fruits, and tropical salad. 6/ Sultanas, raisins, and currants. 7/ Median projections derived from table 7.7.1, page 282. 8/ Weights of sheep and lamb skins estimated from Overseas Trade, 1965/66, Commonwealth Bureau of Census and Statistics.

Source: Table 1.3--Long Term Projections of Agricultural Supply and Demand, Australia, 1965 and 1980, p. 30.

SUMMARY OF "LONG TERM PROJECTIONS OF AGRICULTURAL SUPPLY AND DEMAND, AUSTRALIA, 1965 and 1980"

by

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Increased production and exports of a number of agricultural products of interest to U.S. farmers are projected by a study completed in 1967 under contract for the U.S. Department of Agriculture by a team of economists at Monash University, Clayton, Victoria, under the direction of F. H. Gruen, Director of Agricultural Economics.

This study was largely concerned with production, consumption, and marketing of agricultural commodities competitive with farm products produced in the United States. The contract called for the estimation of production and levels of exports--and in the case of tobacco and cotton, imports--from 1965 through 1980. The export products included were wool, meats, wheat, oats, barley, rice, canned and dried fruits, dairy products, poultry and eggs, tallow, and hides and skins. Wool was included, not because of its importance as a product competitive with U.S. agriculture, but because of its great importance to the Australian agricultural complex.

This study was probably the first major attempt to project, through linear equation analysis, future levels of Australia's agricultural production, demand, and exports (or imports). Fortunately for the economists engaged in this project, two detailed studies projecting population to 1975 and 1986 were issued during 1965 and 1966. Both of these analyses by skilled demographers provided important guidelines to future population growth. Data in both of these studies on population levels derived from natural increases and immigration were useful for the preparation of models and determinants to project domestic consumption requirements. The median population figures adopted for use in this study were as follows:

1965.....	11.4 million
1970.....	12.6 "
1975.....	14.0 "
1980.....	15.5 "

A useful background study for Australia's economic growth factors such as GNP, and capital formation and its affect on the future potential for agricultural development, was provided in a comprehensive government report published in 1965 entitled "Report of the Committee of Economic Enquiry," commonly

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known as the Vernon Report. The authors of the contract study relied heavily on the Vernon Report and agricultural economic studies undertaken in Australian universities as well as, for comparative data, projection studies made in other foreign countries.

Base period data throughout the study pertain to a 4-year average of years 1958-59 through 1961-62. Projections on the base data are for 2-year periods. For example, 1975 is equivalent to an average of 1974-75 and 1975-76 years.

Throughout the study, the projections relating to population, GNP, production, domestic consumption, and exportable surpluses of the individual commodities are presented at both "high" and "low" levels. The projections in the table are based on the "most likely" or median forecast of the authors, which falls somewhere between the two initial projected ranges.

An analysis of developments in Australian agriculture in the postwar years is presented. Consideration has been given to future policy measures, technology changes, capital investment, labor supply, and other factors which affect future trends in agricultural development, thus influencing the volume of farm commodities produced during the 1970's and 1980's.

From the standpoint of competition with U.S. exports in world markets, the most important findings relate to grains, fruits, dairy products, tallow, hides and skins, cotton, and tobacco. The production potential of, and export forecasts for, meats are important to U.S. producers, particularly of beef, as the United States continues to be Australia's leading market for beef. This market could continue to be significant to Australian producers indefinitely, unless unforeseen changes occur in the makeup of diets, or the marketing structure of meats in the United States.

Grains - The median projection of Australia's wheat production for 1975 is set at about 500 million bushels (13.6 million metric tons), with an estimated 397 million bushels (10.8 million metric tons) available for export. Since publication of the study, this projection has been reached. The 1968/69 crop yielded 533 million bushels (14.5 million metric tons). The target for 1980 of 591 million bushels (16.1 million metric tons) is expected to provide approximately 13 million metric tons for export. Per capita consumption of wheat is forecast to decline about 15 percent from 1965 to 1980, or about 1 percent a year.

Rice - Assuming prices of rice are maintained to growers at fairly high levels, the area sown to rice is expected to increase at about the same annual rate as during the 5-year period from 1961/62 through 1965/66, or about 6 percent. The average annual rate of increased area plantings to rice are expected to decline slightly from 1970 to 1975, or down to about 4 percent, and drop still lower to about 2.5 percent by 1980. Providing yields are maintained at 2.5 metric tons per acre throughout the projected period, the production of paddy rice should average 225,000 metric tons in 1970, 275,000 metric tons in 1975, and 315,000 metric tons by 1980.

Consumption of rice will probably increase moderately--only about 1 to 2 percent per annum. The actual amount of rice consumed and exported will depend

to some extent upon the success of the promotion of long-grain rice in new production areas--Queensland and northern Australia. 1/

Feed grains - For purposes of this study, only barley and oats were considered as feed grains with future export potential. The "most likely" estimated exports of these grains in the 1970's and 1980's are:

	1970	1975	1980
	- - - - 1,000 metric tons - - -		
Oats.....	256	294	341
Barley.....	540	567	624

Although the projections for barley are well above the levels of exports in recent years, they are considerably below the large barley shipments of the late 1950's and early 1960's.

Since the study was made, the feed grain situation in Australia has undergone considerable change. Currently, the emphasis is being placed on the production of grain sorghum and corn for export to Japan. Most of these crops are being grown in new areas of development in Queensland, Western Australia, and the Northern Territory. Some minor shipments of Australian grain sorghum have already been made to Japan, and it is contemplated that this market will continue to develop.

Fruits

Dried vine fruits are one of the most important components of Australia's fruit production, and from the U.S. trade side, an important competitive product. Australia is the world's third largest producer of dried vine fruit. Production, although entirely from irrigated areas, fluctuates markedly from year to year. Grape producers are protected by a government guaranteed minimum price scheme, but are free to channel their fruit to three different markets--dried fruit, wine, or fresh fruit--depending upon the growing season, prices, and quality of fruits.

Most of the emphasis in production is placed on dried sultanas, the major dried grape product produced for export. About 80 percent of the total dried vine fruits exported consist of sultanas, which are particularly competitive with U.S. raisins in markets such as the United Kingdom and Canada, because of Commonwealth duty preferences. Production of sultanas in the 1980's is projected to increase about 14 percent above 1965, with surpluses available for export at a slightly higher level, about 16 percent above 1965.

Canned fruit - The canned fruit industry is comprised of two parts: (1) processing of deciduous tree fruits, chiefly peaches, pears, and apricots,

1/ Since 1961, Australia has imported an annual average of 1,300 metric tons of long-grain rice from the United States, Thailand, and the Philippines.

and of (2) pineapples. Peaches are the largest component of total canned fruit, followed by pears and pineapple. Canned deciduous fruits production more than doubled during the 15-year period from 1949/50 to 1964/65. The most dramatic increase in canned fruit production has been in mixed deciduous fruit and tropical-fruit salad packs, which by the mid-1960's had increased 5 and 2.5 times, respectively, above the output of the 1950's. Canned pineapple production, which reached its height in the 1950's, has declined somewhat in later years.

Canned fruit production in Australia over the years has been influenced by a policy of set prices paid to fruit producers by canneries. These prices are determined early in the season by the Fruit Industry Sugar Concession Committee. Processors must pay growers' prices equivalent to the set minimums, or above, to qualify for rebates on sugar purchases. In certain areas, producers are also subject to bonus payments after the year-end operations of canneries are completed.

Production projections for increasing output of canned fruit for the 1980's are based upon slight increases in acreages for most fruits, as well as increased yields for bearing areas. Indications are that little, if any, new plantings of peach trees will occur in the late 1960's. By 1975, many of the bearing trees will be of prime age, approximately 15 years old, and any new plantings are not expected to come into production before the late 1980's or 1990. Therefore, forecasts of peach crops in the early 1980's averaged below the mid-1970's. Projections for the principal canned fruits are shown in the following tabulation:

	Actual production	Projected production		
	1965	1970	1975	1980
	- - - 1,000 metric tons - - -			
Canned peaches	87	108	119	114
Canned pears	50	76	93	103
Canned apricots	16	16	20	22
Canned mixed deciduous	19	24	28	30
Canned pineapple	22	32	38	48
Canned tropical fruit salad	13	14	22	27

Exports of canned deciduous fruits are expected to increase more than 35 percent from 1965 through 1975 and level off in the 1980's. Other canned fruit exports totaling about 10,000 metric tons in 1965 are expected to increase 2.8 times by 1980.

Processed milk products - From the standpoint of competition with U.S. exports, nonfat dry milk is one of the most important dairy commodities Australia produces. In 1965, about 23,000 metric tons were exported. The study forecast that by 1980 the level would be about 28,000 metric tons, or an increase of 22 percent. However, in 1967/68 Australian exports of nonfat dry milk exceeded the 1980 projection by 52 percent.

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In view of the recent growth of Asian markets and expectations that the trend of increasing exports to Asian countries will continue, Australia could export any future surplus of nonfat dry milk without world prices being significantly affected.

Casein is another dairy product which can be produced readily in Australia depending upon the foreign demand situation. As of 1965, Australian exports totaled more than 18,000 metric tons. The study estimates that by 1980 exports of casein will be 30,000 metric tons, or about two-thirds larger. In recent years, the United States has imported large quantities of casein to satisfy its many industrial requirements for plastic.

Meats - Only a slight rise by 1970 in total meat output is forecast. However, a substantial increase in total meat production of about 12 percent is indicated for the 5-year period from 1970 to 1975. From 1975 to 1980, the total supply of all meats is expected to rise, but at a less rapid rate, about 1.5 percent per annum. Exports of beef and veal are projected to increase steadily at slightly over 4 percent per year during the early 1970's through the early 1980's. Steady increases are also indicated in production of both mutton and lamb, while cessation of exports of lamb by 1970 is forecast. Forecasts for 1975 and 1980 indicate that Australia will be importing lamb by then.

Despite data limitations, efforts have been made to estimate current and future consumption of poultry meats. The bulk of the production is believed to be broilers, which have become popular in Australia since 1959. Total supplies of poultry meat are forecast on the basis of per capita consumption, which was approximately 12 pounds per person in 1964/65. An estimated per capita consumption of 18 pounds is forecast for 1970. More moderate increases to 20 pounds per capita in 1975 and 24 pounds per capita by the early 1980's are forecast. Total production of poultry meat for consumption in future periods will depend upon the price of poultry in Australia versus red meats as well as the rate at which incomes of consumers rise. The anticipated high cost of production of poultry in Australia during the periods under projection tends to rule out any possibility of sizeable exports.

Tallow - On the assumption that production of such major meat items as beef and veal--and to a lesser extent mutton--will continue to increase in 1975 and 1980, the output of inedible tallow is expected to rise. According to the forecast, the major portion of the increase in production will occur between 1970 and 1975, and then production will level off by 1980. These projections are based largely on the assumption that more deboned and cut meats will enter export channels, creating more waste materials for making tallow. It is also assumed that export markets and fairly reasonable prices for tallow will be maintained.

Hides and skins - Future production and exports of hides and skins were difficult to predict, stemming from the lack of adequate production and trade statistics for hides and skins during the base years, 1958/59 through 1961/62. Projections were linked to beef, veal, mutton, and lamb production through a calculation of average meat production per animal for 1958/59 through 1965/66.

Forecasts indicate a decline in production and exports of all hides and skins during 1970. In the report, no precise explanation is given of this

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decrease. However, most of the decline appears to be in the cattle hides sector and may be related to a restocking of herds as a result of the high loss of cattle during the drought years of 1965/66 and 1967/68.

Analyses of the future potential for the development of cotton and tobacco were included as a portion of this study because of the importance of U.S. cotton and tobacco in agricultural trade with Australia.

Cotton - The median projection of production and import requirements for cotton during the 1970's excluded the possibility of the completion of the Ord development scheme, not authorized until 1967, for increased irrigation in Western Australia. Irrigated cotton had previously been established as the main crop of that area.

The upper range projection of cotton acreage and production did make allowances for increased irrigation of areas suitable for cotton production in both the Ord area and in parts of New South Wales. The preliminary figure for 1965 output of raw cotton indicated in the report fell short of the actual production for 1965/66 by about 4,000 metric tons. The 20,000 tons of raw cotton produced in 1965/66 is equivalent to the low projected figure for 1970. Cotton production at an average level of 69,000 tons is projected in the study for 1980. The 1967/68 cotton production was 32,000 metric tons or the median of raw cotton production projected for 1970. It is not unrealistic to assume that the upper limits of the projections of 45,000 and 68,000 metric tons for 1975 and 1980, respectively, may be attained, particularly since the Ord River scheme is now assured and production is also expanding in new areas of New South Wales and Queensland.

Tobacco - The lower range projection calculated for future domestic tobacco production and utilization is preferred. On this basis, the domestic crop would increase approximately one-fourth by 1970 and then level off to increases of about 3 percent a year during the mid-1970's and early 1980's. This projection assumes that future production will be of quality leaf and that a high percentage mixing regulation will be continued. Imports are expected to remain at about 13,000 metric tons into the 1970's and gradually decline to 11,000 tons by 1980.